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<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>		ATTORNEY'S DOCKET NUMBER <b>564462005501</b>
INTERNATIONAL APPLICATION NO. <b>PCT/US03/34008</b>	INTERNATIONAL FILING DATE <b>23 October 2003</b>	U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>10/533,241</b>
PRIORITY DATE CLAIMED <b>6 November 2002</b>		
TITLE OF INVENTION <b>XYLOSE ISOMERASES, NUCLEIC ACIDS ENCODING THEM AND METHODS FOR MAKING AND USING THEM</b>		
APPLICANT(S) FOR DO/EO/US <b>Walter CALLEN</b>		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
1. <input type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a submission under 35 U.S.C. 371. 2. <input checked="" type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a submission under 35 U.S.C. 371. 3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input type="checkbox"/> The US has been elected (Article 31). 5. <input type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). a. <input type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (2 pages) 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). <b>Items 11 to 20 below concern document(s) or information included:</b> 11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A preliminary amendment. (23 pages) 14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A power of attorney and/or change of address letter. 17. <input checked="" type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 – 1.825. (1 CDR) 18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).		

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U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>10/533,241</b>		INTERNATIONAL APPLICATION NO. <b>PCT/US03/34008</b>		ATTORNEY'S DOCKET NUMBER <b>564462005501</b>	
20. <input checked="" type="checkbox"/> Other items or information: Petition for Extension of Time (1 page) Copy of Notification to File Missing Requirements (3 pages); Response to Notification to File Missing Requirements (3 pages); Statement to Support Filing and Submission of Sequence Listing (2 pages); Paper copy of Sequence Listing (4 pages); Return Receipt Postcard					
The following fees have been submitted				<b>CALCULATIONS</b>	<b>PTO USE ONLY</b>
21. <input type="checkbox"/> Basic national fee (37 CFR 1.492(a)) ..... \$300				\$	
22. <input type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....\$0 All other situations .....\$200				\$	
23. <input type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) .....\$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority .....\$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB .....\$400 All other situations .....\$500				\$	
<b>TOTAL OF 21, 22 and 23 =</b>				<b>\$ 0.00</b>	
<input checked="" type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. (80 sheets extra)					
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE		
180 - 100 =	80 /50 =	2	x \$250.00	\$ 500.00	
Surcharge of \$130 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)). Plus \$1,020 for 3 month Extension of Time Fee				\$ 580.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	58 - 20 =	38	x 50.00	1,900.00	
Independent claims	2 - 3 =	0	x	0.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ 360.00	360.00	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				<b>\$ 3,860.00</b>	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.					
<b>SUBTOTAL =</b>				<b>\$ 3910.00</b>	
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).				\$	
<b>TOTAL NATIONAL FEE =</b>				<b>\$ National, Examination, and Search Fees previously paid</b>	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				\$	
<b>TOTAL FEES ENCLOSED =</b>				<b>\$ 1,955.00</b>	
07/26/2006 GFREY1 00000081 031952 10533241				Amount to be refunded:	\$
01 FC:2681 250.00 DA				Amount to be charged	\$
02 FC:2617 65.00 DA					
03 FC:2615 350.00 DA					
04 FC:2616 180.00 DA					

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- a. ☐ A check in the amount of \$ \_\_\_\_\_ to cover the above fees is enclosed.
- b. ☒ Please charge my Deposit Account No. 03-1952 in the amount of \$ 1,955.00 to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 03-1952. A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038

**NOTE:** Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:

  
SIGNATURE

Gregory P. Einhorn  
NAME

CUSTOMER NUMBER: 45975

38,440  
REGISTRATION NUMBER

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV 743 884 339 US, in an envelope addressed to: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: July 21, 2006

Signature:  (Judy Calem)

MAR 02 2006

MORRISON & FOERST,  
SAN DIEGO

## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/533,241	Walter Callen	564462005501

INTERNATIONAL APPLICATION NO.
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PCT/US03/34008

I.A. FILING DATE	PRIORITY DATE
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10/23/2003

11/06/2002

45975 *GFE*  
DIVERSA C/O MOFO S.D.  
12531 HIGH BLUFF DRIVE  
SUITE 100  
SAN DIEGO, CA 92130-2040

CONFIRMATION NO. 3119

371 FORMALITIES LETTER



\*OC000000018049955\*

Date Mailed: 02/23/2006

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Indication of Small Entity Status.
- Copy of the International Application filed on 04/29/2005
- U.S. Basic National Fees filed on 04/29/2005
- Priority Documents filed on 04/29/2005
- Specification filed on 04/29/2005
- Claims filed on 04/29/2005
- Abstracts filed on 04/29/2005
- Drawings filed on 04/29/2005
- Paper nucleotide sequence listings filed on 04/29/2005

DOCKETED: 4/23/06  
DUE DATE: 4/23/06  
FINAL DUE DATE: 9/23/06

DOCKETED: 5/23/06  
DUE DATE: 4/23/06  
FINAL DUE DATE: 9/23/06

The applicant needs to satisfy supplemental fees problems indicated below.

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Additional claim fees of \$8105 as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.492(h) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

**SUMMARY OF FEES DUE:**

Total additional fees required for this application is **\$8420** for a Small Entity:

- **\$65 Surcharge.**
- This application clearly fails to comply with the requirements of 37 CFR. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998). If the effective filing date is on or after September 8, 2000, see the final rulemaking notice published in the Federal Register at 65 FR 54604 (September 8, 2000) and 1238 OG 145 (September 19, 2000). Applicant must provide an initial computer readable form (CRF) copy of the "Sequence Listing", an initial paper or compact disc copy of the "Sequence Listing", **as well as an amendment specifically directing its entry into the application.** Applicant must also provide a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d). If applicant desires the sequence listing in the instant application to be identical with that of another application on file in the U.S. Patent and Trademark Office, such request in accordance with 37 CFR 1.821(e) may be submitted in lieu of a new CRF.
- A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 CFR 1.821(e). If the effective filing date is on or after September 8, 2000, see the final rulemaking notice published in the Federal Register at 65 FR 54604 (September 8, 2000) and 1238 OG 145 (September 19, 2000). Applicant must provide an initial computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d). If applicant desires the sequence listing in the instant application to be identical with that of another application on file in the U.S. Patent and Trademark Office, such request in accordance with 37 CFR 1.821(e) may be submitted in lieu of a new CRF.
- The specification and drawings contain more than 100 pages. Applicant owes **\$250** for **80** pages in excess of **100** pages for a small entity in compliance with 37 CFR 1.27.
- Total additional claim fee(s) for this application is **\$ 8105**
  - **\$2100** for **21** independent claims over 3.
  - **\$5825** for **233** total claims over 20.
  - **\$180** for multiple dependent claim surcharge.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

**For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:**

- **For Rules Interpretation, call (571) 272-0951**
- **For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.**
- **Send e-mail correspondence for Patentin Software Program Help @ [ebc@uspto.gov](mailto:ebc@uspto.gov)**

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions

of 37 CFR 1.136(a).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

TAMALA D HOLLAND

Telephone: (703) 308-9140 EXT 209

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/533,241	PCT/US03/34008	564462005501

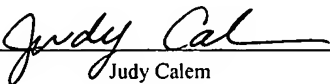
FORM PCT/DO/EO/905 (371 Formalities Notice)

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

Express Mail Label No.: EV 743 884 339 US

Date of Deposit: July 21, 2006

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail PostOffice to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and is addressed to: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
Judy Callem

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Walter CALLEN

Application No.: 10/533,241

Confirmation No.: 3119

International Filing Date: October 23, 2003

Art Unit: Not Yet Assigned

For: XYLOSE ISOMERASES, NUCLEIC ACIDS  
ENCODING THEM AND METHODS FOR  
MAKING AND USING THEM

Examiner: Not Yet Assigned

RESPONSE TO NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C.  
371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

MAIL STOP PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is in response to the Notification of Missing Requirements Under 35 U.S.C. 371 In The United States Designated/Elected Office (DO/EO/US), mailed February 23, 2006, for which a response was due on April 23, 2006. Filed herewith is a Petition for Extension of Time for three months with the appropriate fee, thereby extending the deadline for response to July 23, 2006. Accordingly, this response is timely filed.

Please enter the following Sequence Listing and remarks.

In the Sequence Listing:

Please insert the attached paper copy of the Sequence Listing (pages 1-4) after the Abstract in the above-mentioned application. A computer readable form copy (labeled "CRF") of the Sequence Listing accompanies this response.



## REMARKS

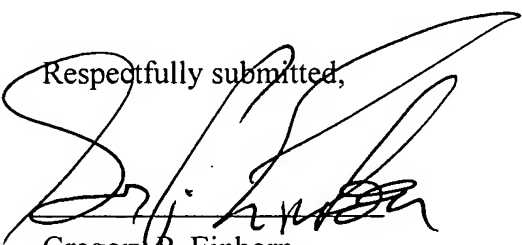
The undersigned hereby states that the computer readable form copy (labeled "CRF") of the Sequence Listing and the paper copy of the Sequence Listing (pages 1-4), submitted in accordance with 37 C.F.R. § 1.825(a) and (b), respectively, are the same and contain no new matter. Accordingly, entry of the Sequence Listing into the above-captioned case is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 564462005501. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Date: July 20, 2006

By:

Respectfully submitted,

  
Gregory P. Einhorn  
Registration No. 38,440

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